Application Guidelines for the

Alternative Energy Technologies Program

Community Renewable Energy Fund

Medium Renewable Energy Fund

Small Renewable Energy Fund

Department of Environment and Natural Resources
Government of the Northwest Territories

September 2009

Preface

Recent increases in energy prices have made alternative energy systems more economical in the Northwest Territories (NWT). Concerns about climate change and the need to reduce greenhouse gas emissions from the use of fossil fuels when producing heat or electricity provide a further reason to develop alternative energy sources. Alternative Energy Technologies Program (AETP) is part of a broader range of measures that the Government of the NWT has put in place through the Energy Plan and Greenhouse Gas Strategy.

The successful application of new technology in the NWT often depends on demonstration projects to test feasibility and develop local skills. Once a technology has been demonstrated feasible it can be incorporated into homes and businesses. This model has been successful in rapidly expanding use of alternative energies in progressive European countries and California.

Alternative Energy Technologies Program funding is split into three sections: the **Community Renewable Energy Fund (CREF)**, the **Medium Renewable Energy Fund (MREF)** and the **Small Renewable Energy Fund (SREF)**.

Stand-alone and Grid-tied Systems are two main ways to set up an alternative energy system. Stand-alone systems are not connected to the community power grid and rely on batteries to store electricity for use on location. Grid-tied packages connect to the community power grid, with an inverter and controller, and will feed into the electrical grid when excess electricity is being produced from your alternative energy source. Grid-tied systems must meet all technical inter-connection standards established by the NWT Public Utilities Board.

The **Community Renewable Energy Fund** funds promising technologies that require demonstration in the NWT in order to prove they are feasible in the north. This contribution is available to community and Aboriginal governments, GNWT departments, boards and agencies, and non-profit organizations to establish feasibility studies or alternative energy demonstration projects as part of their operations. The objective of this fund is to promote projects that advance the knowledge and effectiveness of new, clean energy technologies in northern environments.

The **Medium Renewable Energy Fund** is available to assist commercial businesses, including off-grid lodges and camps, that want to incorporate commercially available alternative energy technologies into their operations. The objective of this fund is to reduce fuel use in remote locations where fuel prices are extremely high due to added transportation costs.

The **Small Renewable Energy Fund** is available to assist NWT residents to integrate commercially available, clean energy technologies on their property, building or other assets for the intent purpose of reducing fuel usage.

For further information about the Alternative Energy Technologies Program or to obtain assistance in preparing proposals, please contact:

Alternative Energy Specialist
Environment Division
Department of Environment and
Natural Resources
Government of the NWT
PO Box 1320
Yellowknife, NT X1A 2L9

Telephone: (867) 873-7654
Fax: (867) 873-0221

Community Renewable Energy Fund

Description:

The Community Renewable Energy Fund provides funding of up to one-half of the project cost. Community and Aboriginal governments, GNWT departments, boards and agencies, and non-profit organizations are eligible to apply for this program. The maximum amount of contribution for any project will be $50,000 per year. Work agreed to under any Contribution Agreement must be completed prior to March 31 of the year in which the Agreement is signed.

Approval must be granted prior to installation and construction. (Projects will not be funded after the fact.) The Community Renewable Energy Fund is available to assist community-based installations of alternative energy systems or the conversion of an existing conventional energy system to alternative energy technology. The Department of Environment and Natural Resources (ENR) will work with proponents to monitor and assess performance of projects to determine the effectiveness of new technologies in northern locations.

ENR is available to help project proponents plan and implement alternative energy projects. Other institutions with alternative energy expertise that can assist project proponents include the Arctic Energy Alliance (AEA) and Aurora Research Institute (ARI). These organizations offer valuable services to help the public attain the following goals:

- Build public awareness, confidence and acceptance of alternative energy systems
- Expand the alternative energy supply industry in the NWT
- Reduce long-term dependence on imported fossil fuels
- Reduce emissions of greenhouse gases
- Reduce long-term real cost of energy for customers

General Requirements:

- To qualify for funding assistance, the system must be installed in a facility located in the Northwest Territories.
- The proponent is responsible to obtain all necessary approvals, permits and licences for the project.
- All materials must be purchased new to qualify for funding assistance.
- All system hardware and installation must meet strict quality criteria. All eligible equipment must be Canadian Standards Association (CSA) or Underwriters Laboratory of Canada (ULC) certified.

A certified electrician must install all 120-VAC systems. Any proposals for grid-tied electrical systems must include proof of approval from the electrical supply utility and meet all interconnection standards established for technical and safety requirements.

Community Renewable Energy Fund

Eligible Technologies:

The following technologies are eligible for funding under CREF:

- **Photovoltaic (PV)** technologies collect solar radiation to produce electricity.
- **Solar Hot Water Heating Systems** consist of large, flat panels that contain a network of pipes that collect solar radiation for heating water.
- **Solar Walls** are perforated panels installed on a south facing wall allowing air to be preheated before entering the air handler, reducing the load on the conventional heater.
- **Wind Turbines** capture the energy of the wind and convert it into electricity. Monitoring studies to assess and measure the wind resource are eligible.
- **Biofuel and Synthetic Gas** are new technologies for more efficient use of wood, vegetation or agricultural waste for fuels or energy sources.
- **Ground-source Heat Pumps** use heat from the ground and circulate it into a building. Other uses of geothermal energy will also be considered.

An applicant may apply for a contribution for a technology not on the list. If they do so, the applicant must provide substantiation that the project is technically feasible and otherwise complies with the program requirements.

Proposals for studies, workshops, conferences or other activities will be considered under this fund. However, acceptance will generally be reserved for projects that are able to demonstrate firm and measurable results in greenhouse gas reductions.

Eligible Costs Include:

- Alternative energy systems and all materials required for system installation
- Installation costs
- Shipping costs
- Batteries for off-grid applications
- Studies, workshops, conferences, training, etc.

Ineligible Costs Include:

- Removal costs of an existing system
- Structural components of a building
- Spare parts inventory in support of a qualifying system
- Operations and maintenance

Community Renewable Energy Fund

Requirements for Proposals:

There is no application form for the Community Renewable Energy Fund because a wide variety of different projects can be eligible for funding. We encourage the proponent to contact us and we will help turn your idea into a proposal. A written proposal should be submitted including the following information:

Proposals must include:

1. A covering letter that includes the following project description:
   - Technical information on the system
     - Brand name
     - Model type
     - Size/capacity
   - Legal name and address of the building or asset
   - Description of the building or asset and its use (for non-GNWT assets, the owner of building or asset must be identified)
   - Description of existing system, type of energy used and annual consumption rates
   - Amount of CREF funds requested, including proponent funding
   - Amount of funds from other sources, including in-kind support
   - Signatures (demonstrating support for the project):
     - Regional head of the department, board or agency requesting funding
     - Regional Superintendent of ENR
     - Person submitting the proposal – include mailing address, telephone and facsimile number
2. Calculations must be provided for expected annual savings of electricity, heating fuel or water in units of consumption *and* in dollars, where savings are applicable. Proposals for studies, workshops or other activities must include a description of the future energy conservation activities that the project could lead to.
3. A detailed cost estimate for implementation of project, e.g. shipping, labour, materials. Usually these are valid price quotes obtained from a contractor who will be available to undertake the work.

All proposals must be submitted to:

Alternative Energy Specialist
Environment Division
Department of Environment and
Natural Resources
Government of the NWT
PO Box 1320
Yellowknife, NT X1A 2L9

Community Renewable Energy Fund

Evaluation:

Proposals must meet all the requirements listed in these guidelines. ENR will help proponents with preparing proposals if assistance is needed.

Proposals will be evaluated according to the following criteria:

- Technical feasibility
- Potential energy savings
- Environmental benefits, including greenhouse gas emission reductions

Systems that provide a clear and useful function on a long-term seasonal or year round basis will be given priority. Priority will also be given to projects that are supplied by a Northwest Territories supplier. Eligible applications will be funded on the basis of first come/first served until the program is fully subscribed.

Proponents must provide at least 50% of funding for projects through sources other than the Energy Conservation Program, Alternative Energy Technologies Program or Energy Efficiency Incentive Program.

The Director of the Environmental Protection Division will make final approvals.

Allocation of Funds:

- CREF is not intended to provide supplemental funding for projects that have previously been granted full funding under other budgets.
- Upon approval of the project, ENR will enter into a funding agreement with the project proponent.
- All funds must be spent by March 31, 2009.

Post-funding Requirements:

- The Alternative Energy Specialist must approve any changes in scope or cost of projects after the Contribution Agreement is signed.
- The proponent is responsible to obtain all necessary approvals, permits and licences for the project.
- Upon completion of the project, the project proponent shall provide the Alternative Energy Specialist with final accounting information as described in the funding agreement.
- All surplus funding will be returned to ENR.
- Funding for projects during subsequent years may be withheld if these "post-funding requirements" are not met.

Medium Renewable Energy Fund

Description:

The Medium Renewable Energy Fund (MREF) provides funding of up to one-third of the cost of qualified alternative energy systems. The funding will be provided to eligible owners of businesses, including off-grid lodges and camps. The maximum amount that will be provided to any recipient will be $15,000 per year. To qualify for funding assistance, the system must be installed in a facility located in the Northwest Territories.

Environment and Natural Resources (ENR) can help business owners to plan and implement alternative energy projects. Other institutions with alternative energy expertise include the Arctic Energy Alliance (AEA) and Aurora Research Institute (ARI). These organizations offer valuable services to help the public attain the following goals:

- Build awareness, confidence and acceptance of alternative energy systems
- Expand the alternative energy supply industry in the NWT
- Reduce long-term dependence on imported fossil fuels
- Reduce emissions of greenhouse gases
- Reduce long-term real cost of energy for NWT residents and businesses

General Requirements:

- The proponent is responsible to obtain all necessary approvals, permits and licences for the project.
- All materials must be purchased new to qualify for funding assistance.
- All system hardware and installation must meet strict quality criteria. All eligible equipment must be Canadian Standards Association (CSA) or Underwriters Laboratory of Canada (ULC) certified.
- A certified electrician must install all 120-volt systems components.
- Systems funded through this program must include the purchase of new alternative energy generation capacity using one of the listed eligible technologies.

Medium Renewable Energy Fund

Eligible Technologies:

The following technologies have been approved for funding under MREF:

- **Photovoltaic (PV)** technologies collect solar radiation to produce electricity.
- **Wind Turbines** capture the energy of the wind and convert it into electricity.
- **Solar Hot Water Heating Systems** consist of large, flat panels that contain a network of pipes that collect energy from solar radiation for heating water.
- **In-stream Hydro/Micro-hydro** consists of a small turbine that is rotated by water pressure from a moving body of water or from water delivered by a pipe.

Eligible Costs Include:

- Alternative energy systems and all materials required for system installation
- Shipping costs
- Inverters and electrical control systems
- Batteries for stand-alone applications
- Installation costs

Ineligible Costs Include:

- Removal costs of an existing system
- Structural components of a building
- Spare parts inventory in support of a qualifying system
- Operations and maintenance
- Replacement of existing batteries

Requirements for Projects:

All applicants must include the following information to be considered for funding:

1. Information on the applicant (i.e. name, address, telephone and facsimile number)
2. Description of building or asset, building usage and legal description of location
3. Project description
4. Technical information on the proposed system (i.e. system description, brand name, model type, size, capacity, expected utilization, amount of energy to be displaced by the system, expected cost of the system, expected annual financial savings)
5. An itemized price quote for the materials, including the name of the supplier
6. Amount of MREF funds requested
7. Simple payback of energy savings in years
8. Signatures to demonstrate support for the project (including building owner and equipment supplier)

Application form is available in Appendix A.

Applications must be submitted to:

Alternative Energy Specialist
Environment Division
Department of Environment and
Natural Resources
PO Box 1320
Yellowknife, NT X1A 2L9

Phone: (867) 920-3484
Fax: (867) 873-0221

Medium Renewable Energy Fund

Evaluation:

Proposals must meet all the requirements listed in these guidelines.

Proposals will be evaluated according to the following criteria:

- Technical feasibility
- Potential energy savings
- Environmental benefits including greenhouse gas emission reductions

Priority will be given to projects that are supplied by a Northwest Territories supplier. Eligible applications will be funded on the basis of first come/first served until the program is fully subscribed.

The Director of the Environment Division will make final approval decisions.

Post-funding Requirements:

Proponents will be required to enter into a standard Contribution Agreement, which will outline the terms and conditions under which funding is being provided.

The Alternative Energy Specialist must approve any changes in scope or cost of projects after the Contribution Agreement is signed.

The proponents will be reimbursed for eligible expenses after the system is installed. Reporting requirements are described in greater detail in the Contribution Agreement. Photographs of the installed product must be provided as part of this documentation and subsequently become the property of ENR. Copies of all necessary approvals, permits and licences must be provided.

All documentation must be received within 60 (sixty) days after the project completion date, and before April 15.

The recipient shall:

- Keep proper accounts and records of the revenues and expenditures incurred and paid under the Contribution Agreement, including all original invoices, receipts and vouchers relating thereto for a period of three years from the completion of the agreement
- Permit an ENR representative to audit, inspect and make copies of those accounts and records at all reasonable times during the three year period
- Provide access to facilities to an ENR representative for those audits and inspections
- Promptly refund to ENR any overpayments of the contribution disclosed by an audit

Small Renewable Energy Fund

Description:

The Small Renewable Energy Fund (SREF) provides funding of up to one-third of the cost of qualified alternative energy systems. The funding will be provided to NWT residents intent on reducing fuel usage in their operations. The maximum amount that will be provided to any recipient will be $5,000 per year.

To qualify for funding assistance, the system must be installed on a property, building or other asset located in the Northwest Territories and the technology must reduce overall fuel usage in the application. Residents who apply for funding must demonstrate the legal right of access to the building, property or asset on which the system will be installed.

Environment and Natural Resources (ENR) can help residents plan and implement alternative energy projects. Other institutions with alternative energy expertise include the Arctic Energy Alliance (AEA) and Aurora Research Institute (ARI). These organizations offer valuable services to help the public attain the following goals:

- Build awareness, confidence and acceptance of alternative energy systems
- Expand the alternative energy supply industry in the NWT
- Reduce long-term dependence on imported fossil fuels
- Reduce emissions of greenhouse gases
- Reduce long-term real cost of energy for NWT residents and businesses

General Requirements:

- The proponent is responsible to obtain all necessary approvals, permits and licences for the project.
- All materials must be purchased new to qualify for funding assistance.
- All system hardware and installation must meet strict quality criteria. All eligible equipment must be Canadian Standards Association (CSA) or Underwriters Laboratory of Canada (ULC) certified.
- A certified electrician must install all 120-volt systems. Any proposals for grid-tied electrical systems must include proof of approval from the electrical supply utility and meet all interconnection standards established for technical and safety requirements.
- Systems funded through this program must include the purchase of new alternative energy generation capacity using one of the listed eligible technologies.

Eligible Technologies:

The following technologies have been approved for funding under SREF:

- **Photovoltaic (PV)** technologies collect solar radiation to produce electricity.
- **Wind Turbines** capture the energy of the wind and convert it into electricity.
- **Ground-source Heat Pumps** use heat from the ground and circulate it into a building.
- **Solar Hot Water Heating Systems** consist of large, flat panels that contain a network of pipes that collect solar radiation for heating water.

Small Renewable Energy Fund

Eligible Costs Include:

- Alternative energy systems and all materials required for system installation
- Installation costs
- Shipping costs
- Inverters and electrical control systems
- Batteries for stand-alone applications
- Grid-tie packages

Ineligible Costs Include:

- Removal costs of an existing system
- Structural components of a building
- Spare parts inventory in support of a qualifying system
- Operations and maintenance
- Replacement of existing batteries

Requirements for Projects:

All applicants must include the following information to be considered for funding:

1. Information on the applicant (i.e. name, address, telephone and facsimile number)
2. Description of building or asset, building usage, and legal description of location
3. Project description
4. Technical information on the proposed system (i.e. system description, brand name, model type, size, capacity, expected utilization, amount of energy to be displaced by the system, expected cost of the system, expected annual financial savings)
5. An itemized price quote for the materials, including the name of the supplier
6. Amount of SREF funds requested
7. Simple payback of energy savings in years
8. Signatures to demonstrate support for the project (including building owner and equipment supplier)

Application form is available in Appendix B.

Applications must be submitted to:

Alternative Energy Specialist
Environment Division
Department of Environment and
Natural Resources
Government of the NWT
PO Box 1320
Yellowknife, NT X1A 2L9

Phone: (867) 873-7654
Fax: (867) 873-0221

Small Renewable Energy Fund

Evaluation:

Proposals must meet all the requirements listed in these guidelines.

Proposals will be evaluated according to the following criteria:

- Technical feasibility
- Potential energy savings
- Environmental benefits including greenhouse gas emission reductions

Priority will also be given to projects that are supplied by a Northwest Territories supplier. Eligible applications will be funded on the basis of first come/first served until the program is fully subscribed.

The Director of the Environmental Protection Service will make final approval decisions.

Post-funding Requirements:

Proponents will be required to enter into a standard Contribution Agreement, which will outline the terms and conditions under which funding is being provided.

The Alternative Energy Specialist must approve any changes in scope or cost of projects after the Contribution Agreement is signed.

The proponents will be reimbursed for eligible expenses upon receipt of proof (an itemized invoice that documents cost, delivery and installation of the approved equipment) and the system is operational. Photographs of the installed product must be provided as part of this documentation and subsequently become the property of ENR. Copies of all necessary approvals, permits and licences must be provided.

All documentation must be received within 60 (sixty) days after the project completion date, and before April 15.

The recipient shall:

- Keep proper accounts and records of the revenues and expenditures incurred and paid under the contribution agreement, including all original invoices, receipts and vouchers relating thereto for a period of three years from the completion of the agreement
- Permit an ENR representative to audit, inspect and make copies of those accounts and records at all reasonable times during the three year period
- Provide access to facilities to an ENR representative for those audits and inspections
- Promptly refund to ENR any overpayments of the contribution disclosed by an audit

Appendix A – Medium Renewable Energy Fund Application Form

Applicant

Name: _____

Mailing address: _____

_____

Phone: (home) _____ (work) _____ Fax: _____

Location of Property

Include legal description of lot, if applicable, description of building or asset and main use of building or asset.

_____

_____

_____

_____

_____

System Description (Current – if existing)

Include brand name, model, capacity and current utilization.

_____

_____

_____

_____

_____

System Description (Proposed)

Include brand name, model, capacity and utilization.

_____

_____

_____

_____

_____

System Components

Description	Quantity	Price	Total
		Sub-total	
		GST	
		Total Cost	

Cost Comparison and Savings

	Current Configuration	Proposed Configuration	Savings
Generator/hours per week			
Fuel/litres per hour			
Number of weeks			
Litres of fuel per year			
Fuel/cost per litre			
Fuel/cost per year			
Maintenance oil/repair			
Total cost per year			

Payback

System Cost	Savings Per Year	Payback Per Year

Funding Required

Maximum one-third of total system cost up to $15,000.

Total Cost of System	
Applicant Contribution	
SREF Funding Requested	

Price Quote

Include the signed, itemized price quote from the equipment supplier with this application.

Signature

I hereby acknowledge that the above information is correct to the best of my knowledge.

_____

(Applicant Signature)

Appendix B – Small Renewable Energy Fund Application Form

Applicant

Name: _____

Mailing address: _____

_____

Phone: (home) _____ (work) _____ Fax: _____

Location of Property

Include legal description of lot, if applicable, description of building or asset and main use of building or asset.

_____

_____

_____

_____

_____

System Description (Current – if existing)

Include brand name, model, capacity and current utilization.

_____

_____

_____

_____

_____

System Description (Proposed)

Include brand name, model, capacity and utilization.

_____

_____

_____

_____

_____

System Components

Description	Quantity	Price	Total
		Sub-total	
		GST	
		Total Cost	

Cost Comparison and Savings

	Current Configuration	Proposed Configuration	Savings
Generator/hours per week			
Fuel/litres per hour			
Number of weeks			
Litres of fuel per year			
Fuel/cost per litre			
Fuel/cost per year			
Maintenance oil/repair			
Total cost per year			

Payback

System Cost	Savings Per Year	Payback Per Year

Funding Required

Maximum one-third of total system cost up to $5,000.

Total Cost of System	
Applicant Contribution	
SREF Funding Requested	

Price Quote

Include the signed, itemized price quote from the equipment supplier with this application.

Signature

I hereby acknowledge that the above information is correct to the best of my knowledge.

_____

(Applicant Signature)